



**Directorate of
Intelligence**

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Heroin Refining Along the Thai-Burmese Border, January-September 1983

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Imagery Analysis Report

NGA Review Completed.

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*IA 83-10135
December 1983*

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**Heroin Refining Along the
Thai-Burmese Border,
January-September 1983**

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Summary

Most heroin refineries in the Golden Triangle are located in Burma along the Thai-Burmese border and are operated or protected by paramilitary insurgent groups.

[redacted] we believe that at least 21 refineries were operating along the Thai-Burmese border at various times from 1 January to 30 September 1983. We estimate that these refineries produced a total of about 8 metric tons of No. 4 heroin during this period.

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Information available as of 30 September 1983 has been used in this report.

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The author of this paper is [redacted] Office of Imagery Analysis. Statistical analysis and estimates of opium-based narcotics production were prepared by [redacted] of the Analytic Support Group, Directorate of Intelligence, CIA. Comments and queries are welcome and may be directed to the Chief, Economic Resources Division, OIA, [redacted]

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[Redacted]

Also during this period, Thai and Burmese narcotics suppression forces destroyed or forced the abandonment of 18 of these refineries, but we believe that seven of them were subsequently reopened. We estimate that these suppression operations resulted in a production loss of about 4 metric tons of No. 4 heroin. The production estimates--because of insufficient substantive information--should be considered as indications of the magnitude of heroin production rather than as precise figures.

[Redacted]

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Introduction

The Golden Triangle of Southeast Asia is a loosely defined region consisting of the opium growing areas of northern Burma, Thailand, and Laos (figure 1). CIA studies reported that during the late 1960s and early 1970s, this region was the source of about 70 percent of the world's illicit opium--about 1,000 tons per year--and the major source of heroin used by American troops in Southeast Asia and by addicts within the United States. By the mid-1970s, however, Mexican heroin had taken over the US market, and by the end of the decade, Southwest Asia had supplanted Mexico as the primary source of heroin for US addicts. In 1979 and 1980 opium production in the Golden Triangle plummeted to between 160 and 225 tons, primarily because of a drought. However, annual production in the region increased sharply to about 600 tons during 1981 and 700 tons in 1982. During 1983, opium production decreased to about 620 tons. [References 1,2]

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Burma, which accounted for an estimated 560 tons of opium production in 1983, has long been the primary source of opium-based illicit narcotics reaching international markets from the Golden Triangle. Caravans, sometimes consisting of hundreds of pack animals escorted by more than 100 armed guards, transport opium or crude morphine base, called pitzu, to processing facilities. Commonly referred to as heroin refineries, these facilities are located just inside Burma along the Thai-Burmese border. Smaller caravans from northern Thailand deliver chemicals used in the heroin conversion process along with some opium. The refineries convert opium or pitzu to intermediate products such as pure morphine base, called 999 morphine, and crude heroin base, or to finished heroin.

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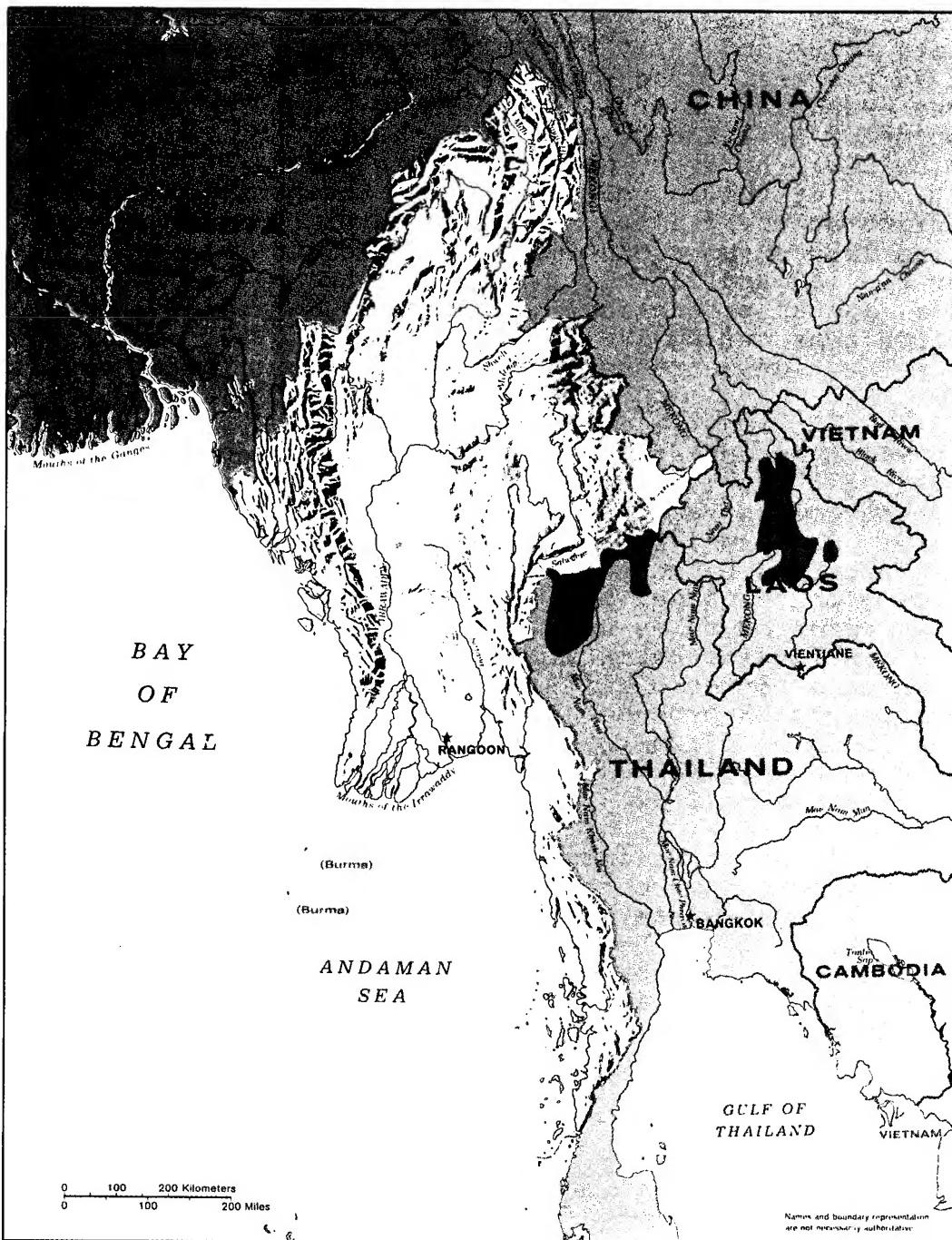
By 1971 at least 15 refineries were operating along the border. [3] Traffickers have continued to locate refineries there, primarily to ensure easy access to required chemicals from Thailand and to major heroin trafficking outlets in southern Thailand such as Bangkok. Both the refineries and the trail networks leading to them are controlled by paramilitary insurgent groups and trafficking organizations.

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Figure 1

Opium Growing Areas in the Golden Triangle



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This report discusses heroin processing-related activity along the Thai-Burmese border that can be identified

[redacted] It also provides an overview of changes in heroin-related activity along the border that have resulted from Thai and Burmese suppression operations between January and September 1983. In addition, it presents an estimate of refinery production as well as production losses resulting from Thai and Burmese narcotics suppression operations during that period.²

Heroin Conversion in the Golden Triangle

The conversion of crude opium to heroin in Golden Triangle refineries is a multistep process that begins with the extraction of crude morphine base, pitzu, from opium [redacted]. Although the process does yield salable intermediate narcotics such as 999 morphine and No. 3 heroin (smoking heroin), currently the primary products sold to traffickers are crude heroin base and higher purity, more expensive No. 4 heroin. Despite the apparent complexity of the conversion process and the variety of chemicals involved, refinery buildings are usually simple bamboo, thatch, or canvas-roofed structures with open sides to allow ample ventilation (figure 3). Crude opium or morphine is normally processed in large pans or pots that are heated on a raised, linear hearth that is fueled by charcoal or wood. The refineries are located adjacent to streams that provide the continuous supply of water required in the conversion process.

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² These production estimates and estimates of lost production are for refineries located only along the Thai-Burmese border and do not take into account refineries that may be located in other areas of the Golden Triangle or along the Thai-Malaysia border.

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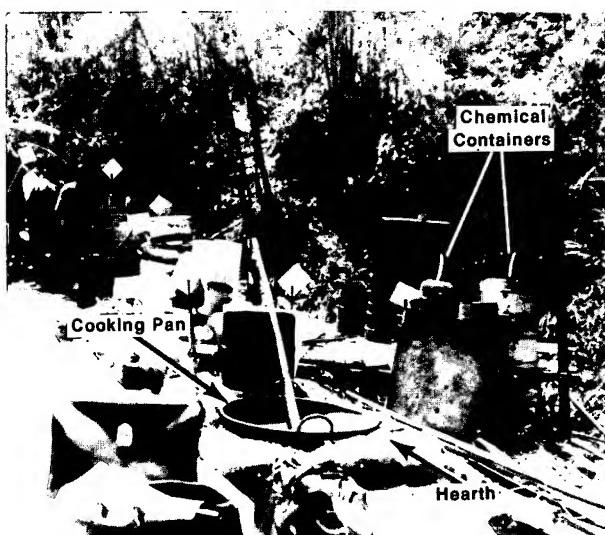
Figure 3

Heroin Refineries and Processing Equipment

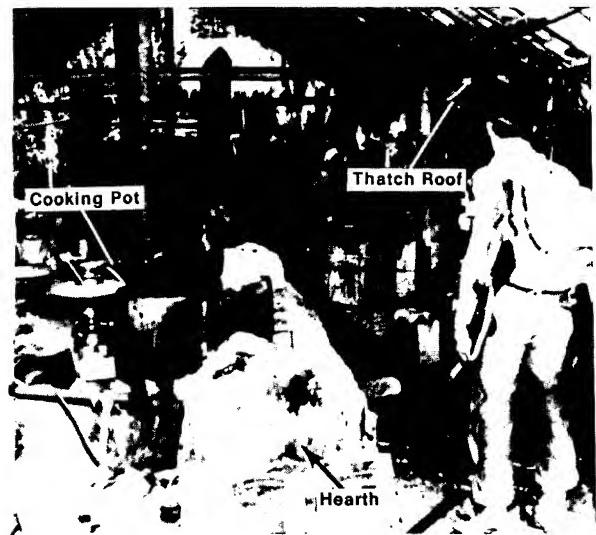
Abandoned Refinery in Northern Thailand, November 1977



Dismantled Refinery in Burma, April 1978



Captured Refinery in Northern Thailand, August 1981



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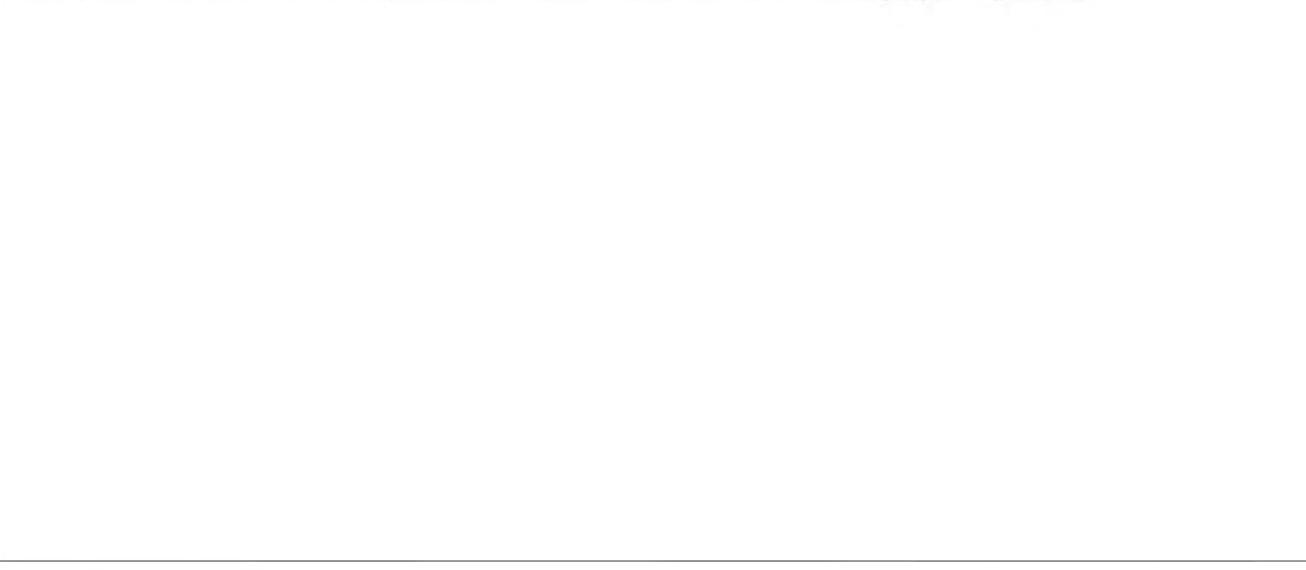
Photographic Indicators of Refining Operations

During the late 1960s and early 1970s, paramilitary insurgent and trafficking groups in the Golden Triangle usually built large refinery complexes in isolated areas and made no attempt to hide them from aerial reconnaissance. Consequently, identification of these facilities on imagery was relatively easy.

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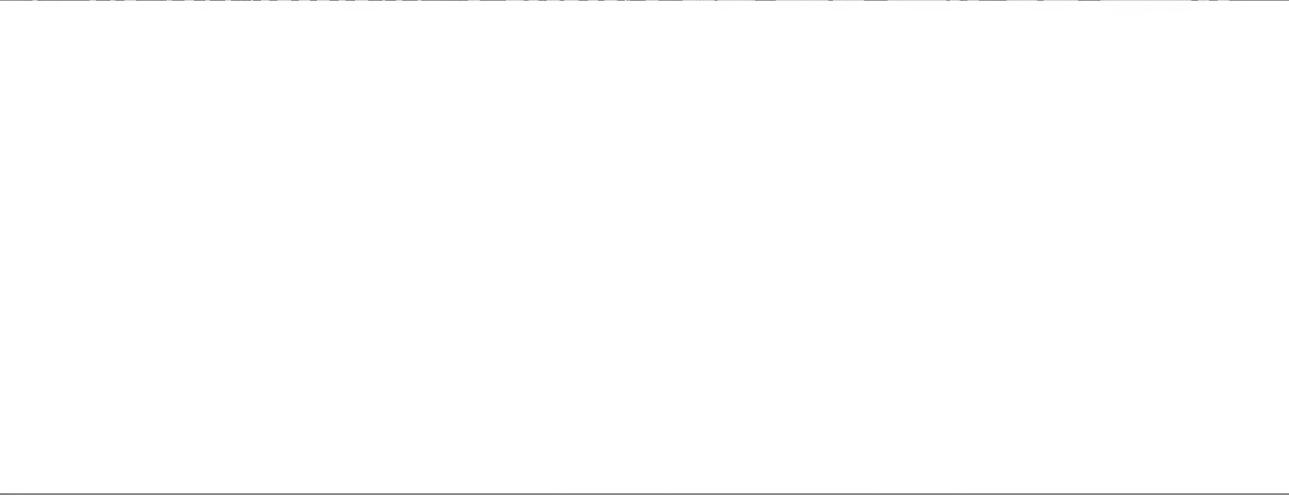
One of the first such refinery complexes observed on imagery was located about 3 kilometers (km) north of Tachilek, Burma

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As Thai and Burmese narcotics suppression efforts increased during the mid-1970s, individual refineries were removed from complexes such as Tachilek and dispersed to isolated locations along the Thai-Burmese border. To further enhance security, traffickers began a concerted effort to conceal refineries from aerial reconnaissance by locating them under heavy tree canopy.

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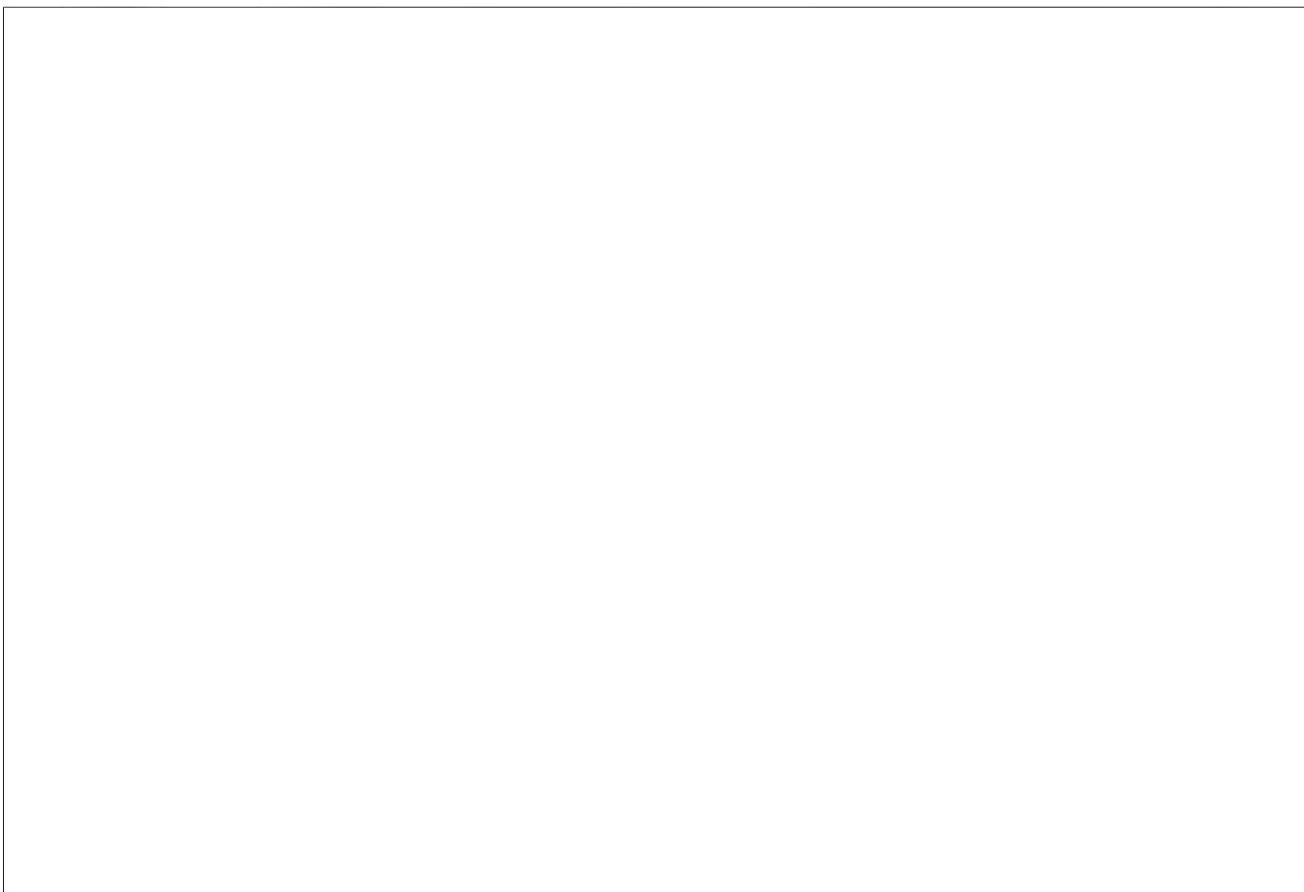
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Refineries Along the Thai-Burmese Border, January-September 1983

Although nine paramilitary groups are currently involved in refining and trafficking activity along the Thai-Burmese border, most refineries in the area are operated by or are under the protection of the Shan United Army (SUA) or the Shan United Revolutionary Army (SURAJ) in concert with the 3rd Chinese Irregular Force (CIF) (see table).⁴ [4] Paramilitary insurgent and trafficking groups also allow independent refineries to operate in the border area but share in the profits from refineries located within areas they control.

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⁴ The Burmese Communist Party (BCP)--a Chinese-supported revolutionary group headquartered in the northern Shan State--is also a major narcotics refining and trafficking organization, but it does not operate refineries along the Thai-Burmese border.

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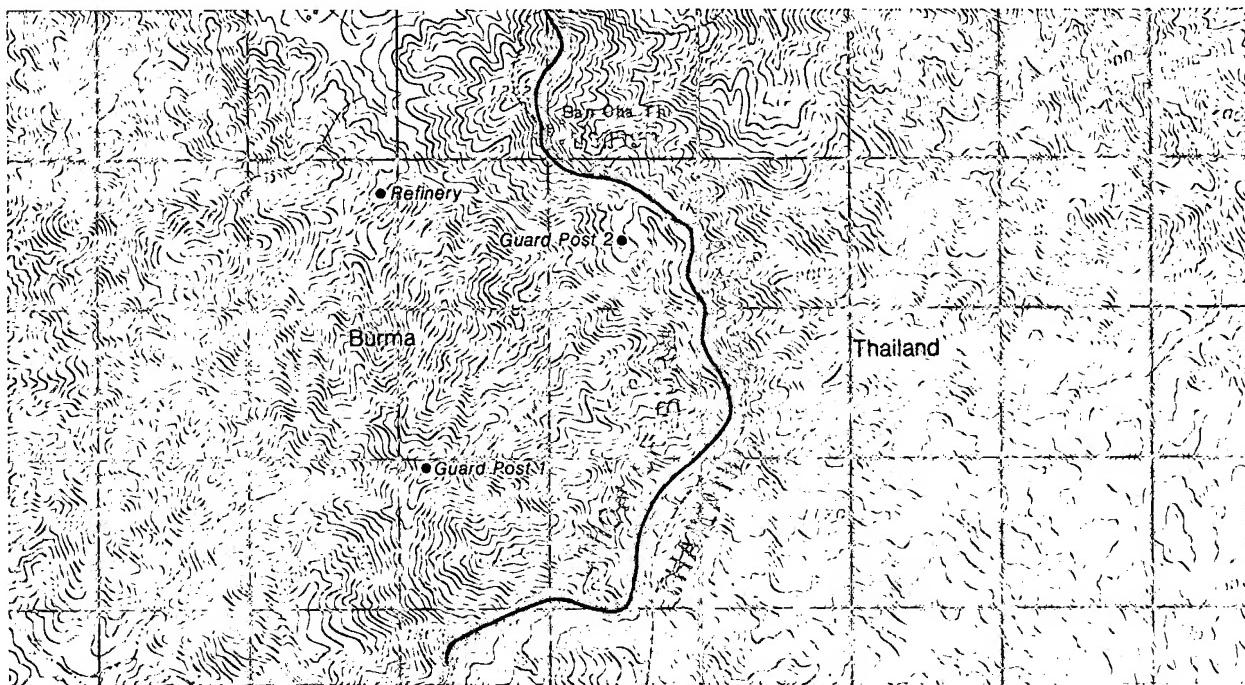
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Figure 9

Man Thong Mountain Refinery, January 1983



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Heroin Trafficking Organizations in the Thai-Burmese Border Area

Organization [3]	Approximate Number of Armed Members
Shan United Army	3,000-4,000 ^a
Shan United Revolutionary Army	800-1,000
Kuomintang	
3rd Chinese Irregular Force	1,500-2,000 ^b
5th Chinese Irregular Force	300-500 ^c
Shan State Army	1,500
Karen National Progressive Party	500-1,200
Lahu State Army	200-500
Kachin Independence Army	4,500 to 5,000
Wa National Army	400
A Bi Group	500

^a [redacted] the
 SUA had 2,190 troops as of May
 1983. [5]

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^bThe 3rd CIF is partially
 integrated with the SURA.

^cThe 5th CIF provides most of the
 officers for the SUA.

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[redacted]

we believe that at least 21 heroin refineries were operating along the Thai-Burmese border at various times from January through September 1983. [4-18] All were in Burma at locations ranging from 1 to 27 km from the Thai border (figure 10). The SURA and the 3rd CIF operated 10 of the refineries, the SUA six, the Shan State Army (SSA) one, the Karen National Progressive Party (KNPP) one, and three were independently operated under the protection of the SUA or the A Bi group. During this period, Thai (Tahan Phran) and Burmese (Burmese Army) narcotics suppression forces destroyed or forced the abandonment of 18 of these refineries, but [redacted] seven of these were subsequently reopened. Although seasonal cloud cover and concealment practices have precluded us from identifying any of these refineries, we have observed associated defensive positions, trail activity, or paramilitary camps near two refineries and a refinery complex consisting of five refineries that were reportedly operating on 30 September 1983 (figure 11).
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'The Tahan Phran are company-sized infantry elements of the Royal Thai Army. They are trained as rangers to operate primarily against small, mobile units of Communist insurgents, but they are also used against narcotics traffickers. The Burmese rely on regular army units for narcotics suppression.

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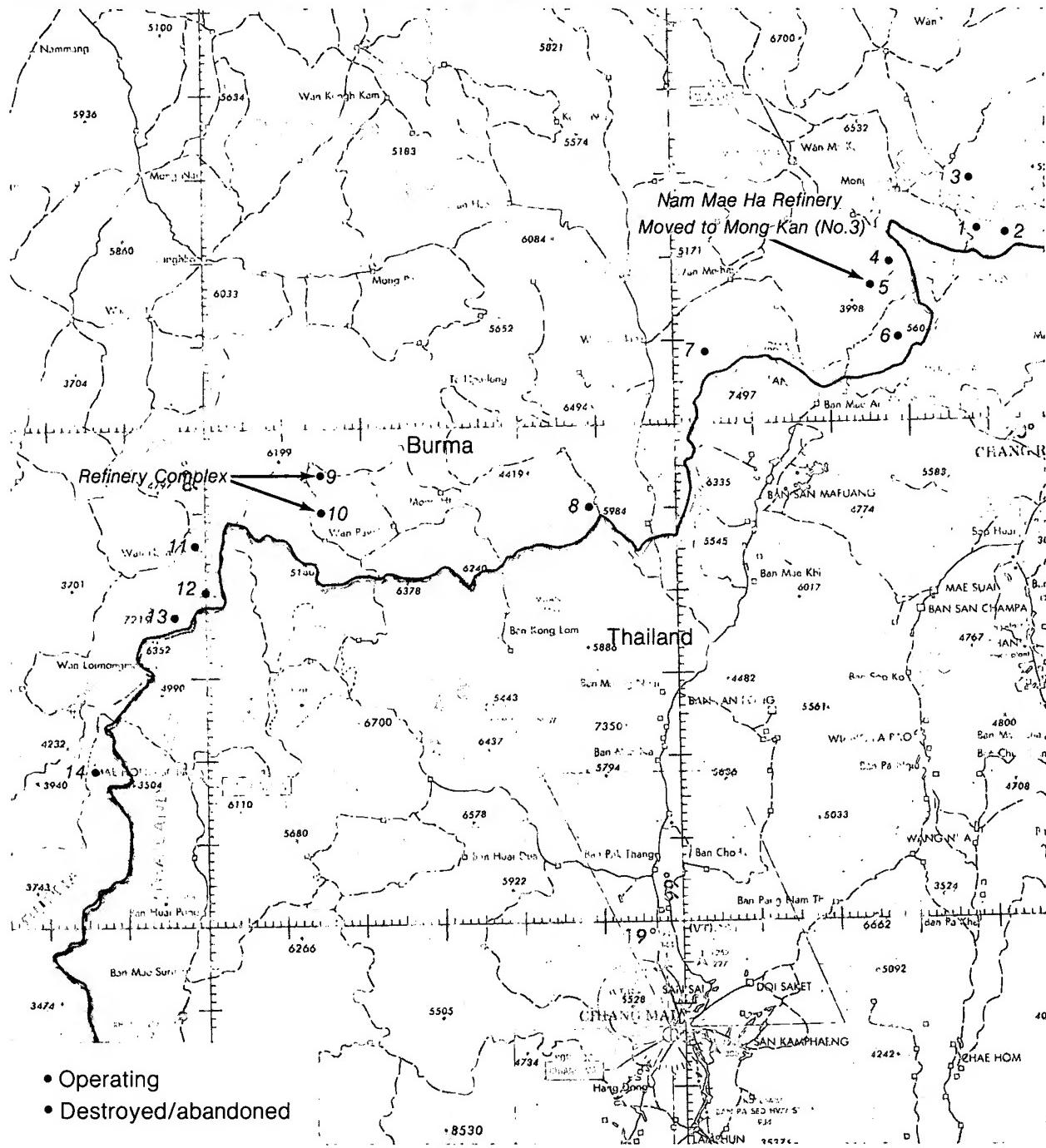
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Figure 10

Heroin Refineries Along the Thai-Burmese Border, January-September 1983



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Key to Figure 10

Refinery (Operator)	Distance From the Border (km)	Date of Initial Operation	Date Destroyed	Date Abandoned	Date Rebuilt or Operations Begun Again
1 Anaka Kho ^a No. 1 (SUA)	4	Prior to 1 Jan 83	3 Jun 83	23 Jun 83	
2 Anaka Kho No. 2 (SUA)	4	Prior to 1 Jan 83	5 Jun 83		
3 Mong Kan ^a (SUA) (Nam Mae Ha opened here)				10 Apr 83	
4 Hua Mae Kham (Independent/ SUA)	3	1 Apr 83	9 Jun 83		
5 Nam Mae Ha (SUA)	12	Prior to 1 Jan 83	9 Apr 83		
6 Lao Ta ^a (Independent/ A Bi)	3	5 Apr 83			
7 Doi San Chu (SUA)	5	5 Feb 83	21 Aug 83		
8 Lao Su (Independent/ A Bi)	3	Prior to 1 Jan 83	28 Jan 83		
9 San Klang ^a No. 1 (SURA/3rd CIF)	15	Prior to 1 Jan 83	15 Apr 83	5 May 83	
San Klang ^a No. 2 (SURA/3rd CIF)	18	Prior to 1 Jan 83	15 Apr 83	5 May 83	
San Klang ^a No. 3 (SURA/3rd CIF)	18	Prior to 1 Jan 83	15 Apr 83	5 May 83	

Refinery (Operator)	Distance From the Border (km)	Date of Initial Operation	Date Destroyed	Date Abandoned	Date Rebuilt or Operations Begun Again
San Klang ^a No. 4 (SURA/3rd CIF)	18	Prior to 1 Jan 83	15 Apr 83	5 May 83	
San Klang ^a No. 5 (SURA/3rd CIF)	18	Prior to 1 Jan 83	15 Apr 83	5 May 83	
10 San Klang No. 6 (SURA/3rd CIF)	9 to 27	Prior to 1 Jan 83	15 Apr 83		
San Klang No. 7 (SURA/3rd CIF)	9 to 27	Prior to 1 Jan 83	15 Apr 83		
San Klang No. 8 (SURA/3rd CIF)	9 to 27	Prior to 1 Jan 83	15 Apr 83		
San Klang No. 9 (SURA/3rd CIF)	9 to 27	Prior to 1 Jan 83	15 Apr 83		
San Klang No. 10 (SURA/3rd CIF)	9 to 27	Prior to 1 Jan 83	15 Apr 83		
11 Mong Mah ^a (SUA)	8		15 May 83		
12 Man Thong (SUA)	1	Prior to 1 Jan 83	26 Mar 83		
13 Na Mong Long (SSA)	4	15 Jan 83	25 Mar 83		
14 Pai River ^a (KNPP)	7	Prior to 1 Jan 83			

^a Operable on 30 September 1983.

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Heroin Production Estimate

[redacted] we estimate that
during the first nine months of 1983, the 21 known refineries
produced about 8 metric tons of No. 4 heroin.⁸ [redacted]

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Heroin Production Losses

[redacted] during the first nine months of 1983, the 21 refineries along the border were not capable of producing heroin for 1,863 days because of Thai and Burmese narcotics suppression operations. Multiplying this figure by our estimate of the average daily production of these refineries, we estimate that these suppression operations resulted in a production loss of about 4 metric tons of No. 4 heroin.

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*The 90-percent confidence interval for lost production of No. 4 heroin is 2.7 to 5.5 metric tons. [redacted]

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